Surficial deposit mapping not available for NTS 41H

0 20 40 60

KILOMETERS - SCALE 1:1000000

SURFICIAL GEOLOGY

Organic and peatland deposits.

Glaciolacustrine and glaciomarine clay and silt; deep water deposits.

Glaciofluvial sand and gravel; includes shallow water glaciolacustrine and glaciomarine deposits.

Till; blanket deposits of unsorted boulders, sand, silt and clay-sized particles.

Till; veneer of glacial sediments over bedrock.

Bedrock; minor patches of thin glacial sediment cover.

SYMBOLS

Moraines; end, recessional and interlobate . . . . . .

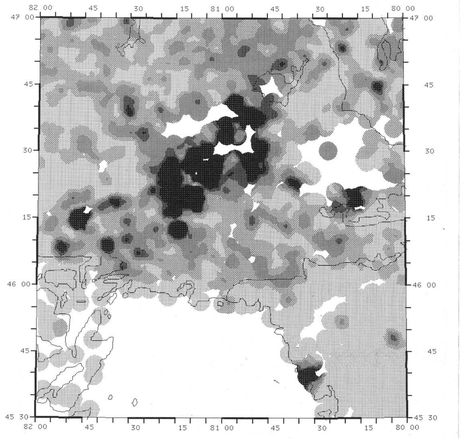
Linear ice flow features; drumlins, drumlinoid forms, crag and tail forms . . . . . .

Esker cccccccccccc

Source of Information:

Sado, E.V., and Carswell, B.F. (compilers), 1987, Surficial Geology of Northern Ontario, OGS Map 2518, Ministry of Northern Development and Mines, Mines and Minerals Division, 1:1,200,000.

NOTE: This legend is common to Open Files 1639 and 1640.



GOLD IN LAKE SEDIMENTS

REGIONAL TREND MAP

0 20 40

KILOMETERS- SCALE 1:1000000

PPB	%TILE
400.0	MAX
6.0	95
4.0	90
2.0	70
1.0	60
0.5	MIN

1451 SAMPLES

Geological Survey of Canada
Mineral Resources Division
Exploration Geochemistry Subdivision

CONTRACTORS

Lake sediment sample collection by SIAL Geophysique Inc., Montreal
Sample preparation by Golder Associates, Ottawa
Sediment chemical analyses by Bondar-Clegg and Company Ltd., Ottawa
Water and Au chemical analysis by Chemex Labs Limited, Vancouver
Geological base prepared by Terra Surveys Ltd., Ottawa
from published material supplied by Geological Survey of Canada

Copies of the Open File map material, element trend and symbol plots, listing of field observations, analytical data, descriptions of analytical methods, and digital data on IBM-PC compatible diskette are available by inquiring to:

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CANADA ONTARIO
Mineral Development Agreement
Entente Minérale

Contribution to Canada-Ontario 1985 Mineral Development Subsidiary Agreement under the Economic and Regional Development Agreement. Project funded by the Geological Survey of Canada.

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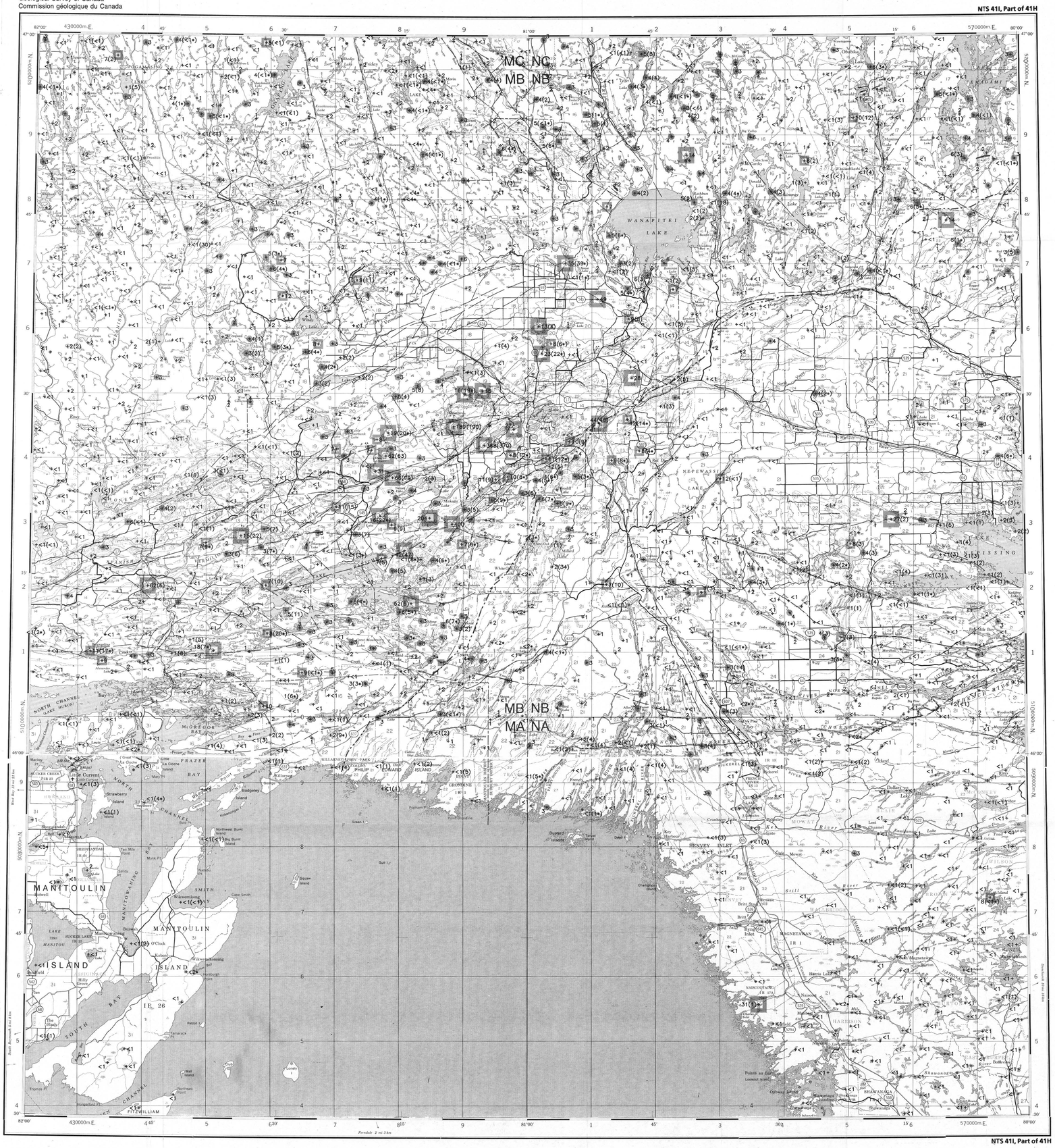
Canada

Geological Survey of Canada
Commission géologique du Canada

NTS 41I, Part of 41H



NTS 41I, Part of 41H

CONCENTRATION		FREQUENCY
13 to 400	⊞	N= 27(1.9%)
7 to 12	⊡	N= 40(2.8%)
5 to 6	▪	N= 41(2.8%)
3 to 4	●	N= 206(14.2%)
<1 to 2	+	N=1137(78.4%)

GEOLOGICAL SURVEY — COMMISSION GÉOLOGIQUE
INDEX MAP — LIEU DE LA CARTE

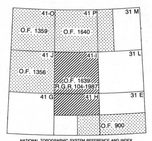
GOLD (ppb)
LAKE SEDIMENTS
GSC OPEN FILE 1639
REGIONAL GEOCHEMICAL RECONNAISSANCE MAP 105-87
CANADA — ONTARIO
MINERAL DEVELOPMENT AGREEMENT (1985 — 1990)
LAKE SEDIMENT AND WATER GEOCHEMICAL SURVEY
CENTRAL ONTARIO, 1987

Scale 1:250 000 - Échelle 1/250 000

Kilometres 5 0 5 10 15 20 Kilomètres

Elevation in feet above mean sea level

Mean magnetic declination 1988, 9° 26' West, increasing 4.6 annually. Reading vary from 8° 00' in the SW corner to 10° 53' in the NE corner of the map area.



NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO ADJOINING GEOLOGICAL SURVEY OF CANADA MAPS

GOLD (ppb)
LAKE SEDIMENTS
GSC OPEN FILE 1639
CENTRAL ONTARIO, 1987

GOLD (ppb)
LAKE SEDIMENTS
GSC OPEN FILE 1639
CENTRAL ONTARIO, 1987

LEGEND

CENOZOIC

PLEISTOCENE TO RECENT

32 **QUS* 64** Sand, gravel, clay, boulder till, organic deposits.

PALEOZOIC

ORDOVICIAN - SILURIAN

31 **OSCP 19** Limestone, dolostone, shale, sandstone, conglomerate.

CAMBRIAN

30 **CAC 10** Carbonatite, nepheline and alkalic syenites, associated mafic and ultramafic rocks, fenite.

PRECAMBRIAN

LATE PRECAMBRIAN

29 **LPAD 04** Mafic intrusive rocks; diabase, quartz diabase, olivine diabase, gabbro, pyroxenite, serpentinized peridotite, olivine gabbro stocks.

28 **LPAC 04** Carbonatite, nepheline and alkalic syenites and associated mafic and ultramafic rocks, fenite.

GRENVILLE PROVINCE

27 **LPGB 04** Metamorphosed mafic and ultramafic intrusive rocks.

26 **LPGA 04** Gneissic alkalic and nepheline syenite.

25 **LPGF 04** Quartz monzonite, minor granodiorite and derived gneisses.

24 **LPGX 04** Anorthositic intrusive rocks; anorthosite, gabbroic anorthosite, tonalite, diorite, monzonite, sodic, alkalic and quartz syenites, derived gneisses.

MIDDLE AND LATE PRECAMBRIAN

23 **MPBN 04** Mafic and ultramafic intrusive rocks; gneissic gabbro, diorite, amphibolite, peridotite, pyroxenite, minor trondhjemite, possible Nipissing Diabase equivalents.

MIDDLE PRECAMBRIAN

22 **MPGF 04** Felsic intrusive rocks and gneissic equivalents; quartz monzonite, granodiorite, granite, trondhjemite, albite granite, syenite and minor gabbro.

21 **MPS 04** Metasediments; Biotite gneiss, muscovitic and quartzose gneiss, calc-silicate gneiss, quartzo-feldspathic gneiss, gneissic coarse clastic metasediments, meta-conglomerates.

SUPERIOR AND SOUTHERN PROVINCES

SUDBURY NICKEL ERUPTIVE

20 **MPSG 04** Granophyre

19 **MPSN 04** Norite-gabbro, quartz norite, quartz gabbro, and transition sub-layer and offset rocks.

WHITEWATER GROUP

18 **MPWG 04** CHELMSFORD FORMATION: greywacke, siltstone.
ONWATIN FORMATION: carbonaceous shale.
ONAPING FORMATION: lapilli tuff, breccia, felsic flows and intrusions, carbonate and cherty rocks.

NIPISSING DIABASE

17 **MPND 04** Pyroxene and hornblende gabbro, amphibolite, granophyre.

HURONIAN SUPERGROUP

COBALT GROUP

16 **MPC 04** BAR RIVER FORMATION: quartz sandstone, hematitic siltstone, sandstone.
GORDON LAKE FORMATION: siltstone, argillite.
LORRAIN FORMATION: micaceous and aluminous quartz, and quartz-feldspar sandstone, minor conglomerate and siltstone.
GOWGANDA FORMATION: conglomerate, sandstone, siltstone and argillite.

QUIRKE LAKE GROUP

15 **MPQL 04** SERPENT FORMATION: quartz-feldspar sandstone with minor siltstone and conglomerate.
ESPANOLA FORMATION: limestone, dolostone, siltstone, sandstone.
BRUCE FORMATION: conglomerate with minor sandstone and siltstone.

HOUGH LAKE GROUP

14 **MPHL 04** MISSISSAGI FORMATION; quartz-feldspar sandstone, minor siltstone, argillite and conglomerate.
PECORS FORMATION; siltstone, argillite, greywacke.
RAMSAY LAKE FORMATION: conglomerate, minor sandstone and siltstone.

ELLIOT LAKE GROUP

13 **MPEL 04** McKIM FORMATION: siltstone, greywacke, argillite.
MATINENDA FORMATION: quartz-feldspar sandstone with minor conglomerate and siltstone.

12 **MPVB 04** SALMAY LAKE and ELSIE MOUNTAIN FORMATIONS: dominantly mafic metavolcanics with minor felsic volcanics, intercalated metasediments.
COPPER CLIFF FORMATION: dominantly felsic and intermediate metavolcanics, minor intrusions and intercalated metasediments.
STOBIE FORMATION: mafic metavolcanics with abundant intercalated metasediments.

11 **MPB 04** Mafic intrusive rocks; gabbro, anorthositic and porphyritic metagabbro.

EARLY PRECAMBRIAN (ARCHEAN)

10 **AGM 02** Massive felsic to intermediate plutonic rocks; granite, granodiorite, tonalite, quartz monzonite, monzo-diorite, pegmatite.

9 **AGN 02** Foliated to gneissic felsic to intermediate plutonic rocks; granite, granodiorite, tonalite, quartz monzonite, diorite, migmatite.

8 **AGY 02** Syenite, monzonite, feldspar porphyry.

7 **AUB 02** Mafic and ultramafic intrusive rocks, including gabbro, diorite, and serpentinized ultramafics.

6 **ACSP 02** Metasediments; greywacke, arkose, quartzite, conglomerate, argillaceous and migmatized metasediments, biotite-quartz-feldspar schist and gneiss.

5 **AMVA 02** Alkalic metavolcanics; trachyte, leucitic trachyte, flows, tuffs, breccia.

4 **AMVU 02** Ultramafic metavolcanics; serpentinized dunitic and peridotitic flows.

3 **AMVF 02** Felsic to intermediate metavolcanics; rhyolite to dacite flows and fragmentals, tuff, lapilli-tuff, agglomerate, breccia, porphyritic flows.

2 **AMVB 02** Mafic to intermediate metavolcanics; basalt to andesite flows, porphyritic flows, and pillows lavas, mafic pyroclastics, layered amphibolite, diorite, gabbro, migmatized mafic metavolcanics.

1 **IF 02** Iron formation.

*A mnemonic code assigned to rock types and recorded as part of field observations.

Geological boundary; approximate, assumed . . . . . ~~~

Fault . . . . . ~~~

No analytical results . . . . . *

Field duplicate site . . . . . *

Geology base and legend for these geochemical maps were derived from:

Ayres, L.D., Lumbers, S.B., Milne, V.G., Robeson, D.W., 1970, Ontario Geological Map Southern Sheet, Map 2197, Ontario Department of Mines and Northern Affairs, 1:1,013,760.

Card, K.D., and Lumbers, S.B., 1975, Sudbury - Cobalt, Geology Compilation Series, Map 2361, Ontario Geological Survey, 1:253,440.

Douglas, R.J.W. (coordinator), Sanford, B.V., and Baer, A.J., 1971, Southern Ontario, Map 1335A, Geological Survey of Canada, 1:1,000,000 Geological Atlas.

McCrank, G.F.D., Misiura, J.D., and Brown, P.A., 1979, Geology - Plutonic Rocks in Ontario, Map 1533A, GeologicalSurvey ofCanada, to accompany GSC P 80-23, 1:1,000,000.

Pyke, D.R., Ayres, L.D., and Innes, D.G., 1971, Timmins - Kirkland Lake, Geology Compilation Series, Map 2205, Ontario Geological Survey, 1:253,440.

NOTE: The geology legend is common to both GSC Open Files 1639 and 1640.